

Cold Forming Process for Manufacturing Ball Pivots

Abstract

5 A cold forming process for manufacturing ball pivots with a ball area, a cone area and a thread area for installation in ball and socket joints by cold forming is presented, in which a ball pivot blank (1) with a shaped cone area (3) and cylindrical areas for the thread (2) and the ball (5) is manufactured at first from a bar-shaped semifinished bar stock by extrusion. The extrusion operation is followed by the forming of the ball area as another manufacturing step by means of a rolling processes. At the same time, the thread area can be formed in its final shape. Thus, the ball pivot is manufactured as a whole by cold forming only and it makes it possible to significantly increase the production output per unit of time compared to the processes known from the state of the art. At the same time, it is possible to use less expensive grades of steel, because sufficient fatigue strength of the ball pivot can be guaranteed by the cold forming.

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Figure 4